

CLAIMS

1. A closing device for a valve (14), specifically a drainage valve, equipping a container such as a chemical reactor (1), a storage tank, a column or other container, said closing device (16) moving between a position that opens the valve and a position that closes the valve (14), and comprising an interior housing (30) designed to hold a probe or a detector (27) of a measurement or detection apparatus, characterized in that it has an opening (38) located in a portion of the closing device that is accessible when the device is in the operating position inside the valve, offering access to its interior housing and allowing the probe or the detector (27) to be inserted or removed without any need to previously disassemble the valve or the closing device, and without altering the valve seal.

2. A closing device according to claim 1 characterized in that the valve (14) is a flap valve.

3. A closing device according to any one of the preceding claims characterized in that the valve (14) is a drainage valve.

4. A closing device according to any one of the preceding claims characterized in that it comprises a shaft (17) and a blocking head (18).

5. A closing device according to any one of the preceding claims characterized in that it is displaced between open and closed positions by the movement of a piston (21) controlled by an activator (23).

6. A closing device according to claims 4 and 5 characterized in that the shaft (17) and the shaft of the piston (21) of the activator (23) are connected by means of a coupling element (24).

7. A closing device according to the preceding claim characterized in that the coupling (24) has a generally cylindrical lower portion (25) extending into a generally conical upper portion (26).

8. A closing device according to claim 6 or claim 7 characterized in that the opening (38) offering access to the interior housing (30) is formed near the coupling (24).

9. A closing device according to any one of the preceding claims characterized in that the opening (38) may be temporarily blocked when not in use.

10. A closing device according to the preceding claim characterized in that the opening (38) is temporarily blocked by a door (39).

11. A closing device according to the preceding claim characterized in that a connector block (31) is connected to the lateral door (39).

12. A closing device according to any one of the preceding claims characterized in that the housing (30) comprises a support element (36) capable of maintaining the probe (28) in position for measurement or detection.

13. A closing device according to the preceding claim characterized in that the support element is a groove (36) formed in the lateral wall of the interior housing (30).

14. A closing device according to any one of the preceding claims characterized in that the probe (27) is a contact type temperature measurement probe.

15. A closing device according to claim 1 characterized in that the probe (27) comprises a sensor element (28) and conductive wires (29) and in that the sensor element (28) is located inside the blocking head (18) and the conductive wires (29) pass through the shaft (17) of the closing element (16) when the probe is positioned inside the housing (30).

16. A closing device according to the preceding claim characterized in that the sensor or detector element (28) is located against the internal surface of the upper wall (32) of the blocking head (18) of the closing device (16) when the probe (27) is positioned inside the housing (30).

17. A closing device according to claim 15 characterized in that the sensor or detector element (28) extends into a flexible casing (33), with the wires (29) passing through its interior, said casing consisting of a coil of compressible spirals (34).

18. A closing device according to the preceding claim characterized in that the casing (33) terminates in a contact ring (35).

19. A closing device according to claims 13, 16, 17 and 18 characterized in that the contact ring (35) and the groove (36) cooperate to maintain the probe (27) inside the housing (30) and to ensure that the sensor or detector

element (28) remains pressed against the upper wall (32) of the blocking head (18) of the closing device through the elastic compression of the spirals (34) on the casing (33).

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